

## Scientific Notation to Numbers

Scientific Notation involves moving decimals.

**Large**

$1.5 \times 10^4$

=

=

1.5000  
15000  
RIGHT  
Larger value

**Small**

$5.8 \times 10^{-4}$

=

=

0.00058  
LEFT  
Small value



## “Handy” Helpful Tip 1



Keep in mind at all times the following:

Normal Numbers bigger than 1, or large numbers,  
always have a **POSITIVE** Power of 10.

$$6.2 \times 10^{\textcircled{1}} =$$

62

$$1.496 \times 10^{\textcircled{8}} =$$

149600000

Values smaller than 1, usually decimal values,  
always have a **NEGATIVE** Power of 10.

$$2.31 \times 10^{\textcircled{-3}} =$$

0.00231

$$6.234 \times 10^{\textcircled{-1}} =$$

0.6234

## Decimal Scientific Notation

Move decimal point **right** or **left** to arrange **one digit** to the left of decimal point.

- |    |             |     |                       |                  |
|----|-------------|-----|-----------------------|------------------|
| 1. | 52,314      | Mov | $5.2314 \times 10^4$  | 4 places (large) |
| 2. | 3.2         | N   | $3.2 \times 10^0$     |                  |
| 3. | .0000428    | Mc  | $4.28 \times 10^{-5}$ | 5 places small   |
| 4. | 602,000,000 |     | $6.02 \times 10^8$    | 8 places (large) |
- Handwritten annotations for item 1:  $52,314$  with an arrow from the decimal point to the 4, labeled "4 places".  
 Handwritten annotations for item 3:  $.0000428$  with an arrow from the decimal point to the 4, labeled "5 places".  
 Handwritten annotations for item 4:  $602,000,000$  with an arrow from the decimal point to the 6, labeled "8 places".

How many significant digits?

1.

a. 2730

b. 4000.

c. 76.53

d. 3010

e. 0.0040

f. 4.340

2. Write in scientific notation

*Sci Notation*      *Sig Digs*

1.	<del>g.</del> 0.00028	$2.8 \times 10^{-4}$	2
2.	<del>h.</del> 765043	$7.65043 \times 10^5$	6
3.	<del>i.</del> 0.000421	$4.21 \times 10^{-4}$	3
4.	<del>j.</del> 0.2013	$2.013 \times 10^{-1}$	4
5.	<del>k.</del> 4032	$4.032 \times 10^3$	4
6.	<del>l.</del> 1310.68	$1.31068 \times 10^3$	6

Try these:

a. 2730	3	b. 4000.	4	c. 76.53	4	d. 3010	4
e. 0.0040	2	f. 4.340	4	g. 0.00028	2	h. 765043	6
i. 0.000421	3	j. 0.2013	4	k. 4032	4	l. 1310.68	6
m. 4000.	1	n. 5001	4	o. 700000007	9	p. 34.500	5